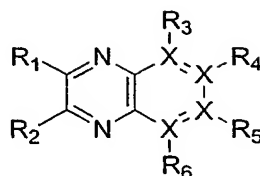


Claims

What is claimed is:

- 5           1. A compound of Formula (I):



Formula I

wherein,

X is N or C;

R<sub>1</sub> and R<sub>2</sub> each are independently is

- 1) hydrogen;  
 10       2) alkyl;  
          3) alkoxy;  
          4) cycloalkyl;  
          5) heterocyclyl;  
          6) heterocyclalkyl;  
 15       7) aryl;  
          8) heteroaryl;  
          9) aralkyl;  
          10) heteroaralkyl; or  
          11) -NH<sub>2</sub>, -NHR<sub>8</sub>, -NR<sub>8</sub>R<sub>8</sub>;

- 20       wherein both R<sub>1</sub> and R<sub>2</sub> are not hydrogen, R<sub>8</sub> is independently hydroxyl, halo, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted heterocyclalkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl;

R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, and R<sub>6</sub> each independently is

- 1) hydrogen, cyano, nitro, or halo;  
 2) alkyl;  
 25       3) alkenyl;

- 4) alkynyl;
- 5) alkoxy;
- 6) cycloalkyl or heterocyclyl;
- 7) cycloalkylalkyl or heterocyclalkyl;
- 8) aryl or heteroaryl;
- 9) aralkyl or heteroarylalkyl;
- 10)  $-\text{SO}_2\text{R}_9$ ,  $-\text{CO}_2\text{R}_9$ ,  $-\text{SR}_9$ ,  $-\text{SOR}_9$ ; or
- 11)  $-\text{NH}_2$ ,  $-\text{NHR}_9$ ,  $-\text{NR}_9\text{R}_9$ ;

wherein  $\text{R}_9$  is independently H, alkoxy, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkoxy, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclalkyl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl,  $-\text{NH}_2$ ,  $-\text{NH}(\text{C}_1\text{-C}_4)\text{alkyl}$ ,  $-\text{N}[(\text{C}_1\text{-C}_4)\text{alkyl}]_2$ ,  $-\text{SO}_2\text{alkyl}$ ,  $-\text{SO}_2\text{aryl}$ , alkylcarbonyl, alkoxycarbonyl, carbamoyl, urealyl, or carbamyl; and not including 2,3-dithiophen-2-yl-pyrido[2,3-b]pyrazine, 2,3-dithiophen-2-yl-pyrido[2,3-b]pyrazine-6-carboxylic acid (2-morpholin-4-yl-ethyl)-amide; or 2,3-dithiophen-2-yl-pyrido[2,3-b]pyrazine-6-carboxylic acid (3-morpholin-4-yl-propyl)-amide.

2. The compound according to claim 1, wherein  $\text{R}_1$  or  $\text{R}_2$  are substituted with at least one  $\text{R}_8$ , wherein  $\text{R}_8$  is independently hydroxyl, halo, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted heterocyclalkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl.

3. The compound according to claim 1, wherein  $\text{R}_1$  and  $\text{R}_2$  are taken together to form a substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, or substituted or unsubstituted heteroaryl.

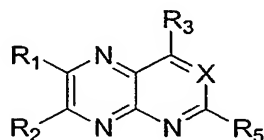
4. The compound according to claim 1, wherein  $\text{R}_3$ ,  $\text{R}_4$ ,  $\text{R}_5$ , or  $\text{R}_6$  are optionally substituted with  $\text{R}_9$ , wherein  $\text{R}_9$  is independently alkoxy, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkoxy, substituted

or unsubstituted cycloalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl, -NH<sub>2</sub>, -NH(C<sub>1</sub>-C<sub>4</sub>)alkyl, -N[(C<sub>1</sub>-C<sub>4</sub>)alkyl]<sub>2</sub>, -SO<sub>2</sub>alkyl, -SO<sub>2</sub>aryl,  
 5 alkylcarbonyl, alkoxy carbonyl, carbamoyl, urealyl, or carbamyl.

5. The compound according to claim 1, wherein either R<sub>3</sub> and R<sub>4</sub>, R<sub>4</sub> and R<sub>5</sub>, or R<sub>5</sub> and R<sub>6</sub> are taken together to form a ring including cycloalkyl, heterocyclyl, aryl, heteroaryl.

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6. A compound having the Formula II:



Formula II

wherein,

X is N or C-R<sub>4</sub>;

R<sub>1</sub> and R<sub>2</sub> each independently is

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- 1) C<sub>1</sub>-C<sub>8</sub> alkyl;
- 2) C<sub>1</sub>-C<sub>8</sub> alkoxy;
- 3) C<sub>3</sub>-C<sub>8</sub> cycloalkyl;
- 4) C<sub>3</sub>-C<sub>8</sub> heterocyclyl;
- 5) C<sub>3</sub>-C<sub>8</sub> cycloalkylalkyl or heterocyclylalkyl;
- 6) C<sub>5</sub>-C<sub>10</sub> aryl;
- 7) C<sub>4</sub>-C<sub>10</sub> heteroaryl;
- 8) C<sub>6</sub>-C<sub>14</sub> aralkyl;
- 9) C<sub>5</sub>-C<sub>14</sub> heteroaralkyl; or
- 10) -NH<sub>2</sub>, -NHR<sub>8</sub>, or -NR<sub>8</sub>R<sub>8</sub>,

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wherein R<sub>8</sub> is independently hydroxyl, halo, cyano, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, cycloalkyl, heterocyclyl, heterocyclylalkyl, aryl, heteroaryl, aralkyl, heteroaralkyl, -NH<sub>2</sub>, -NHR<sub>12</sub>, or -NR<sub>12</sub>R<sub>12</sub>, wherein R<sub>12</sub> is alkyl, cycloalkyl, heterocyclyl, aryl, or heteroaryl; and optionally, R<sub>1</sub> and R<sub>2</sub> may be taken together to form a substituted or unsubstituted C<sub>5</sub>-C<sub>8</sub> cycloalkyl, C<sub>4</sub>-C<sub>8</sub> heterocyclyl, C<sub>5</sub>-C<sub>8</sub> aryl, or C<sub>4</sub>-C<sub>8</sub> heteroaryl;

R<sub>3</sub> and R<sub>5</sub> each independently is

- 1) hydrogen, halo, cyano, or nitro;
- 2) C<sub>1</sub>-C<sub>8</sub> alkyl;
- 3) C<sub>2</sub>-C<sub>8</sub> alkenyl;
- 5 4) C<sub>2</sub>-C<sub>8</sub> alkynyl;
- 5) C<sub>1</sub>-C<sub>8</sub> alkoxy;
- 6) C<sub>3</sub>-C<sub>8</sub> cycloalkyl or heterocyclyl;
- 7) C<sub>4</sub>-C<sub>8</sub> cycloalkylalkyl or heterocyclalkyl;
- 8) C<sub>3</sub>-C<sub>10</sub> aryl or heteroaryl;
- 10 9) C<sub>6</sub>-C<sub>14</sub> aralkyl or heteroaralkyl; or
- 10) -CO<sub>2</sub>R<sub>9</sub>, -SR<sub>9</sub>, -SOR<sub>9</sub>, or -SO<sub>2</sub>R<sub>9</sub>;

wherein R<sub>9</sub> is independently H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>5</sub>-C<sub>6</sub> heterocyclyl, C<sub>5</sub>-C<sub>8</sub> aryl, C<sub>3</sub>-C<sub>8</sub> heteroaryl, C<sub>6</sub>-C<sub>10</sub> aralkyl, or C<sub>5</sub>-C<sub>10</sub> heteroaralkyl, and optionally, either R<sub>3</sub> and R<sub>4</sub>, R<sub>4</sub> and R<sub>5</sub>, or R<sub>5</sub> and R<sub>6</sub> are taken together  
15 to form a ring including C<sub>4</sub>-C<sub>6</sub> cycloalkyl, C<sub>4</sub>-C<sub>6</sub> heterocyclyl, C<sub>5</sub>-C<sub>8</sub> aryl, or C<sub>3</sub>-C<sub>8</sub> heteroaryl; and

R<sub>4</sub> is

- 1) cyano, nitro, or halo;
- 2) C<sub>1</sub>-C<sub>8</sub> alkyl;
- 20 3) C<sub>2</sub>-C<sub>8</sub> alkenyl;
- 4) C<sub>1</sub>-C<sub>8</sub> alkoxy;
- 5) C<sub>3</sub>-C<sub>8</sub> cycloalkyl;
- 6) C<sub>3</sub>-C<sub>8</sub> heterocyclyl;
- 7) C<sub>5</sub>-C<sub>8</sub> aryl;
- 25 8) C<sub>3</sub>-C<sub>10</sub> heteroaryl;
- 9) C<sub>5</sub>-C<sub>8</sub> cycloalkylalkyl;
- 10) C<sub>5</sub>-C<sub>8</sub> heterocyclalkyl;
- 11) C<sub>6</sub>-C<sub>8</sub> aralkyl;
- 12) C<sub>5</sub>-C<sub>8</sub> heteroaralkyl;
- 30 13) -CO<sub>2</sub>R<sub>10</sub>, -SR<sub>10</sub>, -SOR<sub>10</sub>, or -SO<sub>2</sub>R<sub>10</sub>; or
- 14) -NH<sub>2</sub>, -NHR<sub>10</sub>, or -NR<sub>10</sub>R<sub>10</sub>,

wherein R<sub>10</sub> is independently H, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl optionally substituted with R<sub>13</sub>, C<sub>1</sub>-C<sub>4</sub> alkoxy optionally substituted with R<sub>13</sub>, C<sub>4</sub>-C<sub>6</sub> heterocyclyl optionally substituted with R<sub>13</sub>, C<sub>4</sub>-C<sub>10</sub> heterocyclalkyl optionally substituted with R<sub>13</sub>, C<sub>7</sub>-C<sub>8</sub> aralkyl

optionally substituted with  $R_{13}$ ,  $C_5$ - $C_8$  heteroaralkyl optionally substituted with  $R_{13}$ ,  $NH_2$ ,  $NHR_{13}$ ,  $NR_{13}R_{13}$ ,  $-SO_2R_{13}$ ,  $C_1$ - $C_5$  carbomoyl optionally substituted with  $R_{13}$ ,  $C_2$ - $C_5$  alkylcarbonyl optionally substituted with  $R_{13}$ , or  $C_2$ - $C_5$  alkoxycarbonyl optionally substituted with  $R_{13}$ , wherein  $R_{13}$  is  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy,  $C_6$ - $C_{10}$  aryl,  $C_5$ - $C_8$  heterocyclalkyl,  $-SO_2R_{14}$ ,  $C_2$ - $C_6$  alkylcarbonyl optionally substituted with  $R_{14}$ ,  $C_6$ - $C_{10}$  arylcarbonyl optionally substituted with  $R_{14}$ , carbamoyl, urealyl, or carbamyl, wherein  $R_{14}$  is  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy, aryl, arylcarbonyl,  $NH_2$ ,  $NH[(C_1-C_4)alkyl]$ ,  $N[(C_1-C_4)alkyl]_2$ , alkylcarbonyl, alkoxycarbonyl, carbamoyl, urealyl, or carbamyl; and not including 2,3-dithiophen-2-yl-pyrido[2,3-b]pyrazine.

7. The compound according to claim 6, wherein  $R_1$  or  $R_2$  are substituted with at least one  $R_8$ , wherein  $R_8$  is independently hydroxyl, halo, cyano,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy, cycloalkyl, heterocyclalkyl, heterocyclalkyl, aryl, heteroaryl, aralkyl, heteroaralkyl,  $-NH_2$ ,  $-NHR_{12}$ , or  $-NR_{12}R_{12}$ , wherein  $R_{12}$  is alkyl, cycloalkyl, heterocyclalkyl, aryl, or heteroaryl.

8. The compound according to claim 6, wherein  $R_1$  and  $R_2$  may be taken together to form a substituted or unsubstituted  $C_5$ - $C_8$  cycloalkyl,  $C_4$ - $C_8$  heterocyclalkyl,  $C_5$ - $C_8$  aryl, or  $C_4$ - $C_8$  heteroaryl.

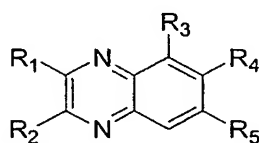
9. The compound according to claim 6, wherein  $R_3$  or  $R_5$  is substituted with at least one  $R_9$ , wherein  $R_9$  is independently  $C_1$ - $C_6$  alkyl,  $C_2$ - $C_6$  alkenyl,  $C_1$ - $C_6$  alkoxy,  $C_3$ - $C_6$  cycloalkyl,  $C_5$ - $C_6$  heterocyclalkyl,  $C_5$ - $C_8$  aryl,  $C_3$ - $C_8$  heteroaryl,  $C_6$ - $C_{10}$  aralkyl, or  $C_5$ - $C_{10}$  heteroaralkyl.

10. The compound according to claim 6, wherein either  $R_3$  and  $R_4$ ,  $R_4$  and  $R_5$ , or  $R_5$  and  $R_6$  are taken together to form a ring including  $C_4$ - $C_6$  cycloalkyl,  $C_4$ - $C_6$  heterocyclalkyl,  $C_5$ - $C_8$  aryl, or  $C_4$ - $C_8$  heteroaryl.

11. The compound according to claim 6, wherein  $R_4$  is substituted with at least one  $R_{10}$ , wherein  $R_{10}$  is independently  $C_1$ - $C_4$  alkyl,  $C_2$ - $C_4$  alkenyl optionally substituted with  $R_{13}$ ,  $C_1$ - $C_4$  alkoxy optionally substituted with  $R_{13}$ ,  $C_4$ - $C_6$  heterocyclalkyl optionally substituted with  $R_{13}$ ,  $C_4$ - $C_{10}$  heterocyclalkyl optionally substituted with  $R_{13}$ ,  $C_7$ - $C_8$  aralkyl optionally substituted with  $R_{13}$ ,  $C_5$ - $C_8$  heteroaralkyl optionally substituted with  $R_{13}$ ,  $NH_2$ ,

NHR<sub>13</sub>, NR<sub>13</sub>R<sub>13</sub>, -SO<sub>2</sub>R<sub>13</sub>, C<sub>1</sub>-C<sub>5</sub> carbomoyl optionally substituted with R<sub>13</sub>, C<sub>2</sub>-C<sub>5</sub> alkylcarbonyl optionally substituted with R<sub>13</sub>, or C<sub>2</sub>-C<sub>5</sub> alkoxycarbonyl optionally substituted with R<sub>13</sub>, wherein R<sub>13</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>5</sub>-C<sub>8</sub> heterocyclalkyl, -SO<sub>2</sub>R<sub>14</sub>, C<sub>2</sub>-C<sub>6</sub> alkylcarbonyl optionally substituted with R<sub>14</sub>, C<sub>6</sub>-C<sub>10</sub> arylcarbonyl optionally substituted with R<sub>14</sub>, carbamoyl, urealyl, or carbamyl, wherein R<sub>14</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, aryl, arylcarbonyl, NH<sub>2</sub>, NH[(C<sub>1</sub>-C<sub>4</sub>)alkyl], N[(C<sub>1</sub>-C<sub>4</sub>)alkyl]<sub>2</sub>, alkylcarbonyl, alkoxycarbonyl, carbamoyl, urealyl, or carbamyl.

12. A compound of Formula III:



Formula III

wherein,

R<sub>1</sub> and R<sub>2</sub> each independently is

- 1) hydrogen;
- 2) C<sub>1</sub>-C<sub>8</sub> alkyl;
- 3) C<sub>1</sub>-C<sub>8</sub> alkoxy;
- 4) C<sub>3</sub>-C<sub>8</sub> cycloalkyl;
- 5) C<sub>3</sub>-C<sub>8</sub> heterocyclalkyl;
- 6) C<sub>3</sub>-C<sub>8</sub> cycloalkylalkyl or heterocyclalkyl;
- 7) C<sub>5</sub>-C<sub>10</sub> aryl;
- 8) C<sub>3</sub>-C<sub>10</sub> heteroaryl;
- 9) C<sub>6</sub>-C<sub>14</sub> aralkyl;
- 10) C<sub>5</sub>-C<sub>14</sub> heteroaralkyl; or
- 11) -NH<sub>2</sub>, -NHR<sub>8</sub>, or -NR<sub>8</sub>R<sub>8</sub>,

wherein both R<sub>1</sub> and R<sub>2</sub> are not hydrogen, R<sub>8</sub> is independently hydroxyl, halo, C<sub>1</sub>-

C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, cycloalkyl, heterocyclalkyl, aryl, heteroaryl, aralkyl, heteroaralkyl, -NH<sub>2</sub>, -NHR<sub>12</sub>, -NR<sub>12</sub>R<sub>12</sub>, alkylcarbonyl, alkoxycarbonyl, aryloxy, carbamoyl, urealyl, carbamyl, or -SO<sub>2</sub>R<sub>12</sub>, wherein R<sub>12</sub> is halo, cyano, hydroxyl, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkynyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, aryl, NH<sub>2</sub>, NH[(C<sub>1</sub>-C<sub>4</sub>)alkyl], N[(C<sub>1</sub>-C<sub>4</sub>)alkyl]<sub>2</sub>; or optionally, R<sub>1</sub> and R<sub>2</sub> may be taken together to form a substituted or unsubstituted C<sub>4</sub>-C<sub>8</sub> cycloalkyl, C<sub>4</sub>-C<sub>8</sub> heterocyclalkyl, C<sub>5</sub>-C<sub>8</sub> aryl, or C<sub>5</sub>-C<sub>8</sub> heteroaryl; and

R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> each independently is

- 1) hydrogen, halo, cyano, or nitro;
- 2) C<sub>1</sub>-C<sub>8</sub> alkyl;
- 3) C<sub>2</sub>-C<sub>8</sub> alkenyl;
- 5 4) C<sub>2</sub>-C<sub>8</sub> alkynyl;
- 5) C<sub>1</sub>-C<sub>8</sub> alkoxy;
- 6) C<sub>3</sub>-C<sub>8</sub> cycloalkyl or heterocyclyl;
- 7) C<sub>5</sub>-C<sub>8</sub> aryl;
- 8) C<sub>3</sub>-C<sub>10</sub> heteroaryl;
- 10 9) C<sub>6</sub>-C<sub>14</sub> aralkyl;
- 10) -NH<sub>2</sub>, -NHR<sub>9</sub>, or -NR<sub>9</sub>R<sub>9</sub>; or

11) C<sub>2</sub>-C<sub>10</sub> carbamoyl, optionally substituted with at least one R<sub>9</sub>;

wherein R<sub>9</sub> is independently C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>5</sub>-C<sub>6</sub> heterocyclyl, C<sub>5</sub>-C<sub>8</sub> aryl, C<sub>3</sub>-C<sub>10</sub> heteroaryl, C<sub>6</sub>-C<sub>10</sub> aralkyl, C<sub>4</sub>-C<sub>10</sub> heteroarylalkyl, C<sub>5</sub>-C<sub>8</sub> aryloxy, alkylcarbonyl, arylcarbonyl, carbamoyl, carbamyl, urealyl, or -SO<sub>2</sub>R<sub>11</sub> wherein R<sub>11</sub> is F, Cl, Br, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>5</sub>-C<sub>8</sub> aryl, or C<sub>4</sub>-C<sub>8</sub> heteroaryl.

13. The compound according to claim 12, wherein R<sub>1</sub> or R<sub>2</sub> is substituted with R<sub>8</sub>,  
 20 wherein R<sub>8</sub> is independently hydroxyl, halo, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, heteroaralkyl, -NH<sub>2</sub>, -NHR<sub>12</sub>, -NR<sub>12</sub>R<sub>12</sub>, alkylcarbonyl, alkoxy carbonyl, aryloxy carbonyl, carbamoyl, urealyl, carbamyl, -SO<sub>2</sub>R<sub>12</sub>, wherein R<sub>12</sub> is halo, cyano, hydroxyl, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkynyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, aryl, NH<sub>2</sub>, NH[(C<sub>1</sub>-C<sub>4</sub>)alkyl], N[(C<sub>1</sub>-C<sub>4</sub>)alkyl]<sub>2</sub>; or optionally, R<sub>1</sub> and R<sub>2</sub> may be taken together  
 25 to form a substituted or unsubstituted C<sub>4</sub>-C<sub>8</sub> cycloalkyl, C<sub>4</sub>-C<sub>8</sub> heterocyclyl, C<sub>5</sub>-C<sub>8</sub> aryl, or C<sub>5</sub>-C<sub>8</sub> heteroaryl.

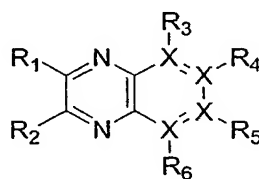
14. The compound according to claim 12, wherein R<sub>1</sub> and R<sub>2</sub> are taken together to form a substituted or unsubstituted C<sub>4</sub>-C<sub>8</sub> cycloalkyl, C<sub>4</sub>-C<sub>8</sub> heterocyclyl, C<sub>5</sub>-C<sub>8</sub> aryl, or  
 30 C<sub>5</sub>-C<sub>8</sub> heteroaryl.

15. The compound according to claim 12, wherein R<sub>3</sub>, R<sub>4</sub>, or R<sub>5</sub> are substituted with at least one R<sub>9</sub>, wherein R<sub>9</sub> is independently C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>5</sub>-C<sub>6</sub> heterocyclyl, C<sub>5</sub>-C<sub>8</sub> aryl, C<sub>3</sub>-C<sub>10</sub> heteroaryl, C<sub>6</sub>-C<sub>10</sub>

aralkyl, C<sub>4</sub>-C<sub>10</sub> heteroarylalkyl, C<sub>5</sub>-C<sub>8</sub> aryloxy, alkylcarbonyl, arylcarbonyl, carbamoyl, carbamyl, urealyl, or -SO<sub>2</sub>R<sub>11</sub> wherein R<sub>11</sub> is F, Cl, Br, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>5</sub>-C<sub>8</sub> aryl, or C<sub>4</sub>-C<sub>8</sub> heteroaryl.

16. The compound according to claim 12, wherein either R<sub>3</sub> and R<sub>4</sub>, or R<sub>4</sub> and R<sub>5</sub> are taken together to form a ring including C<sub>4</sub>-C<sub>6</sub> cycloalkyl, C<sub>4</sub>-C<sub>6</sub> heterocyclyl, or C<sub>5</sub>-C<sub>8</sub> aryl.

17. A method for treating cancer comprising administering a therapeutically effective amount of a compound of Formula (I) to a subject in need of such treatment, wherein the compound of Formula (I) has the formula:



Formula I

wherein,

X is N or C;

R<sub>1</sub> and R<sub>2</sub> each are independently is

1) hydrogen;

2) alkyl;

3) alkoxy;

4) cycloalkyl;

5) heterocyclyl;

6) heterocyclylalkyl;

7) aryl;

8) heteroaryl;

9) aralkyl;

10) heteroaralkyl; or

11) -NH<sub>2</sub>, -NHR<sub>8</sub>, or -NR<sub>8</sub>R<sub>8</sub>;

wherein both R<sub>1</sub> and R<sub>2</sub> are not hydrogen, R<sub>8</sub> is independently hydroxyl, halo, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted heterocyclylalkyl, substituted or

unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl;

R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, or R<sub>6</sub> each independently is

- 1) hydrogen, cyano, nitro, or halo;
- 2) alkyl;
- 3) alkenyl;
- 4) alkynyl;
- 5) alkoxy;
- 6) cycloalkyl or heterocyclyl;
- 7) cycloalkylalkyl or heterocyclylalkyl;
- 8) aryl or heteroaryl;
- 9) aralkyl or heteroarylalkyl;
- 10) -SO<sub>2</sub>R<sub>9</sub>, -CO<sub>2</sub>R<sub>9</sub>, -SR<sub>9</sub>, or -SOR<sub>9</sub>; or
- 11) -NH<sub>2</sub>, -NHR<sub>9</sub>, or -NR<sub>9</sub>R<sub>9</sub>;

wherein R<sub>9</sub> is independently H, alkoxy, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkoxy, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl, -NH<sub>2</sub>, -NH(C<sub>1</sub>-C<sub>4</sub>)alkyl, -N[(C<sub>1</sub>-C<sub>4</sub>)alkyl]<sub>2</sub>, -SO<sub>2</sub>alkyl, -SO<sub>2</sub>aryl, alkylcarbonyl, alkoxycarbonyl, carbamoyl, urealyl, or carbamyl or a pharmaceutically acceptable salt, hydrate or pro-drug thereof, in combination with a pharmaceutically acceptable carrier.

18. The method according to claim 17, wherein R<sub>1</sub> or R<sub>2</sub> are substituted with at least one R<sub>8</sub>, wherein R<sub>8</sub> is independently hydroxyl, halo, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl.

19. The method according to claim 17, wherein R<sub>1</sub> and R<sub>2</sub> are taken together to form a substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, or substituted or unsubstituted heteroaryl.

5           20. The method according to claim 17, wherein R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, or R<sub>6</sub> are substituted with R<sub>9</sub>, wherein R<sub>9</sub> is independently alkoxy, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkoxy, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclalkyl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl, -NH<sub>2</sub>, -NH(C<sub>1</sub>-C<sub>4</sub>)alkyl, -N[(C<sub>1</sub>-C<sub>4</sub>)alkyl]<sub>2</sub>, -SO<sub>2</sub>alkyl, -SO<sub>2</sub>aryl, alkylcarbonyl, alkoxy carbonyl, carbamoyl, urealyl, or carbamyl.

15           21. The method according to claim 17, wherein either R<sub>3</sub> and R<sub>4</sub>, R<sub>4</sub> and R<sub>5</sub>, or R<sub>5</sub> and R<sub>6</sub> are taken together to form a ring including cycloalkyl, heterocyclyl, aryl, or heteroaryl.

22. The method according to claim 17, wherein the dosage form is a tablet, caplet, troche, lozenge, dispersion, suspension, suppository, solution, capsule, or patch.

20           23. The method according to claim 17, wherein the compound is administered in about 0.001 mg/kg to about 100 mg/kg.

24. The method according to claim 21, wherein the compound is administered by oral administration.

25           25. The method according to claim 17, further comprising administration of at least one of Taxol, Vincristine, Adriamycin, Etoposide, Doxorubicin, Dactinomycin, Mitomycin C, Bleomycin, Vinblastine, or Cisplatin.